



Professional Licensing Boards

Georgia Construction Industry Licensing Board

*Division of Master and
Journeyman Plumbers*

Licensure Examinations

Candidate Information Bulletin

Examination Development and Testing Unit

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The Examination Development and Testing Unit gratefully acknowledges the assistance of other state licensing programs in the development of this candidate information bulletin. Portions of this bulletin were based on candidate information bulletins of other states.

Georgia Construction Industry Licensing Board

Division of Master and Journeyman Plumbers

Table of Contents

	Page No.
Introduction	1
1. Getting to the Examination	1
2. Veterans' Preference Points	1
At the Examination	1
3. What to Bring to the Examination	1
4. Special Accommodations for Candidates with Disabilities	1
5. Visitors at the Examination Site.....	2
6. Conduct During the Examination.....	2
7. Test-taking Skills	3
8. Smoking Policy.....	3
9. Dressing for the Examination	3
10. Description of the Examination.....	3
11. Time Limits	9
12. Pre-testing	9
13. Question Comments.....	9
After the Examination	9
14. Statistical Review of Examination Performance	9
15. Difficulty Rating.....	9
16. Final Scaled Scores.....	10
17. Score Reports	10
18. Examination Regrade Process.....	10
19. Licenses	10
20. Re-examination Procedure	10
21. Sample Questions	11
22. Sample Answer Sheet.....	11

Introduction

The Division of Master and Journeyman Plumbers of the Georgia Construction Industry Licensing Board was created by the Georgia legislature to protect the public by taking steps to ensure that licensed Master and Journeyman Plumbers are competent in their profession. To achieve this goal, minimum standards and requirements were established by the Board for entry into the profession. Passing of licensure examinations is one of the requirements for obtaining a plumber license. Three classes of licenses are offered: Journeyman Plumber, Master Plumber Class I (Restricted), and Master Plumber Class II (Unrestricted).

Please review this bulletin carefully. It provides you with information you need about the plumber examinations.

1. Getting to the Examination

An examination admission notice will be mailed to scheduled applicants two weeks prior to the examination. The notice will give the location, date, and time of the examination. We recommend that you locate the testing site and parking locations before the morning of the examination. Allow extra time on the morning of the examination to find parking and remember that most lots do charge a fee. Parking fees vary from location to location.

2. Veterans' Preference Points

Georgia law [General Provisions Volume 30, Title 43-1-9.(1)(2)(3)] provides that veterans meeting certain conditions are eligible for the addition of five to ten points to their examination scores. To qualify, veterans must have served for a minimum of one year in active duty status, and must have served during a period of conflict or war for a minimum of 90 days. The law provides that you may also qualify for veterans' preference points if you were discharged for injury or illness incurred in the line of duty and your disability is officially rated. To apply for veterans' preference points, if you have not already submitted a DD-214 form and documentation of your disability (if applicable), you may bring a copy of this information to the examination site and turn it in to the examination proctor. Please note that the copy will not be returned to you.

At the Examination

3. What to Bring to the Examination

- A. **Admission Notice** – contains time and location of examination and the classification of the examination you will be taking.
- B. **Identification** – must bear both your picture and your signature (e.g., driver's license). If you do not have such identification, you must bring a notarized photograph of yourself.
- C. **Pencils** – do not bring pens, pencils or other writing instruments to the examination. Pencils will be provided during check-in.
- D. **Calculator** – Your calculator must be a silent, non-printing, battery operated or self-powered type. It must not be programmable and should not be a device designed for the storage and retrieval of alphabetic data (such as an electronic organizer). It should not have a keypad that has all 26 letters. You may wish to bring spare batteries for your calculator.
- E. No reference material will be allowed in the examination room.

NOTE: Candidates are not permitted to share equipment during the examination. All candidates must bring their own equipment.

4. Special Accommodations for Candidates with Disabilities

The Georgia Construction Industry Licensing Board wants to ensure that all qualified individuals with a disability have the opportunity to take any of the licensing examinations.

Wheelchair access is available at all established test centers. Candidates are requested to advise the Board, in writing, at the time of application, that wheelchair access is necessary.

Qualified candidates with sensory, mental or physical disabilities that would prevent them from taking the examination under standard conditions may request special accommodations. Candidates should check the appropriate space on the "Examination Scheduling Form," and contact the Board office at the address below, to obtain the "Request for Disability Accommodation Guidelines." Application materials, including

information requested in the "Guidelines," must be received by the Board by the application deadline and are available from:

**Construction Industry Licensing Board
Division of Master and Journeyman Plumbers
237 Coliseum Drive
Macon, GA 31217-3858
(478) 207-1416**

5. Visitors at the Examination Site

Visitors will not be permitted in the examination room. If you need to meet family members or other persons after the examination, you should arrange to meet in the lobby of the building in which the examination is given. Candidates will not be allowed to visit with, or exchange messages with others during the examination.

6. Conduct During the Examination

Under Board rule 121-3-.02(2), you are expected to conduct yourself in a professional manner during the examination. Any candidate engaging in conduct that subverts or attempts to subvert the examination process may be dismissed from the examination, may have scores withheld and/or declared invalid, may be disqualified from the practice of the profession, or may be subject to other Board sanctions under Board rule 121-5.

- A. You may not bring any reference material in the examination room.
- B. You may not bring cameras, cell-phones, tape recorders, pagers, timers, personal digital assistants (PDAs), or electronic recording or transmitting devices into the examination room. **If you do bring one of these devices, you will have to leave it outside the testing room, unattended, and the state will not assume responsibility for it. IF YOU ARE FOUND IN THE TESTING ROOM WITH ONE OF THESE, YOU WILL BE DISMISSED FROM THE EXAMINATION.**

- C. You may not take notes from the examination room.
- D. You may not remove from the examination room any examination materials.
- E. You are not to reproduce or reconstruct any portion of the licensing examination or aid others in reproducing or reconstructing the same.
- F. The examination proctors cannot answer any questions about the content of any examination questions.
- G. You may not leave the examination room except with the examination proctor's permission. If you are permitted to leave, you may not use the time to refer to reference material. If you are permitted to leave and return, you will not be granted any extra time to complete your examination.
- H. Report to the examination room at the designated time. Seating of candidates, distribution of test materials and testing instructions will begin shortly thereafter. **ANYONE WHO ARRIVES AFTER TESTING BEGINS WILL NOT BE ADMITTED.**
- I. You may be dismissed from the examination room and/or may be denied a license for irregularities including, but not necessarily limited to:
 - 1. disrupting other candidates;
 - 2. attempting to copy answers from another candidate;
 - 3. allowing your answers to be copied;
 - 4. impersonating another examination candidate;
 - 5. failing to follow the examination proctor's instructions;
 - 6. trying to copy or remove examination materials;
 - 7. trying to use unauthorized references or materials.

7. Test-taking Skills

- A. Read all instructions carefully, and be sure you understand them. Ask questions about any instructions that are unclear.
- B. Bring a watch to the examination to use in measuring your progress through the examination. Removing your watch and placing it in view on the table may save you time since a quick time check will not require major changes in body position or eye focus.
- C. Be sure to mark an answer for all questions, even the ones about which you may be unsure. There is no penalty for guessing, and your score is based upon the total number of questions you answer correctly.
- D. For each question, select the BEST answer of the options listed. More than one choice may be partially correct, but for each question there should be only one best answer.
- E. Be sure to mark your answers on the answer sheet provided. No credit will be given for any work done in your examination booklet or answers marked in your booklet.
- F. Scratch paper will not be needed. You may perform any computations or make notes in the examination booklet.
- G. Do not make stray marks on your answer sheet. You may wish to make a note in your examination booklet next to any questions you wish to review before you turn in your examination.

8. Smoking Policy

Smoking is not allowed in the examination room or connecting restrooms.

9. Dressing for the Examination

Dress comfortably. Individuals have different temperature preferences and it is not possible for us to please everyone. We often have little control over the heating and air conditioning in the locations we use for examinations. We recommend that you bring a sweater or jacket so that you can be comfortable in different conditions.

10. Description of the Examination

Please refer to pages 4-8 for the descriptions of the content of the three examinations – Journeyman, Master Plumber Class I, and Master Plumber Class II. The number of questions in each content category appearing on the examination is to the right of the category and under the title for the type of license sought.

**Content Categories for Journeyman Plumber, Master Plumber
Class I (Restricted), and Master Plumber Class II (Unrestricted)**

	JM	Number of Questions	
		Class I	Class II
Restricted/Unrestricted	<u>100</u>	<u>80</u>	<u>100</u>
A. Comply with General Laws	5	5	5
1. Georgia Construction Industry Licensing Board (complaint procedures, function of, renewal, etc.)			
2. Location law for underground utilities			
3. Americans with Disabilities Act (ADA)			
4. American National Standards Institute (ANSI) Handicap Accessibility			
5. State water conservation law			
B. Comply with Regulations	15	15	15
1. Georgia State Plumbing Code and Standard Building Code Congress (SBCCI) Plumbing Code			
2. Standard Building Code Congress (SBCCI) Gas Code			
3. Code of Federal Regulations, Title 29, Part 1926 (OSHA)			
4. Obtain necessary permits and inspections (plumbing, boiler, etc.)			
5. State Trenching Law			
6. Georgia State Boiler Code			
7. Health Department			
8. Manufacturer's recommendations			
C. Work Planning/Organizing	7	8	7
1. Compile bill of materials from drawing and specifications (job takeoff)			
2. Interpret equipment name plate data: pump, water heater, backflow preventer, lift stations, etc.			
3. Draw waste and water diagrams (isometrics)			
4. Interpret bar chart schedule			
5. Determine precedence of various codes, laws, manufacturer's instructions, regulations, etc.			
D. Perform Pipe Cutting and Joining Activities	10	4	10
1. Cut cast-iron pipe (using snap-type chain cutter, hammer and chisel, metal saw, demolition saw, hydraulic cutters, etc.)			
2. Cut concrete pipe (using saws, hammer and chisel, etc.)			
3. Cut and ream copper tubing and pipe (using metal saws, tubing cutter, etc.)			
4. Cut and ream plastic pipe (using saws, tubing (scissor) cutter, etc.)			

	<u>JM</u>	<u>Number of Questions</u>	
		<u>Class I</u>	<u>Class II</u>
5. Cut and ream steel pipe (using hand pipe cutter, metal saw, power pipe cutter, etc.) 6. Join cast-iron soil pipe (using lead and oakum, rubber-type seal, no-hub connectors, etc.) 7. Use transition fittings (clay pipe to cast-iron pipe, cast iron to plastic, etc.) 8. Join copper or brass pipe (tubing) to fittings (sweat method, compression, flare, T-drill method, etc.) 9. Join PVC, CPVC plastic pipe using solvent method, fusion method, threaded, grooved, etc. 10. Cut and join ductile iron pipe 11. Join steel pipe (threaded, welded, grooved, flanged, etc.) 12. Cut and join vent and flue pipe (Class B and C) 13. Cut and join other types of pipe (glass, polyethylene, acid resistant, etc.)			
E. Perform Plumbing Systems Installation Activities	21	16	21
1. Interpret plans and install according to specifications 2. Size and install water supply 3. Size and install drainage systems 4. Size and install gas pipes 5. Assemble plumbing fittings and fixtures (interpret manufacturer's instructions) 6. Locate/mark holes for plumbing in walls, ceilings or floors 7. Install pipe through concrete walls, ceilings, or floors 8. Install pipe through wood floors 9. Install pipe through metal walls, ceilings or floors 10. Install pipe to meet fire code regulations 11. Secure horizontal and vertical lines of pipe to masonry and concrete, metal, etc., surfaces 12. Secure horizontal and vertical lines of pipe to wood surface 13. Insulate water lines 14. Locate and install cleancuts 15. Install pipe in trenches (layout, digging, compaction, bedding, and thrust blocks) 16. Install footing drains 17. Calculate the slope required for building sewer lines 18. Install vent terminals (roof-flashing) 19. Fabricate fixture support (backing) 20. Mount fixture carriers 21. Install bathroom fixtures: water closet, tubs, showers, bidets, lavatories, etc. 22. Install clothes dryer vent 23. Install/fabricate sump reservoir			

	<u>Number of Questions</u>		
	<u>JM</u>	<u>Class I</u>	<u>Class II</u>
24. Install sinks			
25. Install dishwashers			
26. Install garbage disposal			
27. Install "Instant Hot" water heaters			
28. Install water heaters			
29. Install boilers			
30. Install specialty fixtures: hospital, medical, restaurant, prison, etc.			
31. Install industrial piping and fixtures			
32. Install specialty piping: gas, air, vacuum, etc.			
33. Install valves according to manufacturer's instructions			
34. Install specialty valves: backflow, T and P, pressure relief, check, vacuum relief, backwater, pressure-reducing, etc.			
35. Install specialty traps and interceptors (grease, sand, oil, etc.)			
36. Install shower and safety pans			
37. Install fixtures according to ADA, ANSI regulations			
38. Install specialty waste systems (continuous, indirect, and safe waste systems, open site drains, trailer site waste systems, etc.)			
39. Install roof and storm drain systems			
40. Install sewage ejection systems			
F. Perform System Testing Activities	7	5	7
1. Pressure test water distribution system (air, water, hydrostatic, etc.)			
2. Test sanitary and drainage systems (water, smoke, air, peppermint, etc.)			
3. Pressure test gas lines (air)			
4. Certify backflow test			
5. Sterilize potable water systems and obtain certification			
G. Perform Maintenance and Repair Activities	15	11	15
1. Locate leaks in gas supply lines (using soapy water, gas detector)			
2. Service gas appliances (clean and adjust gas burners, check valves and venting, etc.)			
3. Service electric appliances (replace electric water heater element, check controls, relief valves, etc.)			
4. Locate, identify and remove obstructions in drain lines and water closets			
5. Clean backwater valves			
6. Repair leaking water faucets or valves			
7. Repair tank type and flush valve water closets			
8. Locate leak in drainage/vent systems (peppermint test, Smoke test)			

	<u>Number of Questions</u>		
	<u>JM</u>	<u>Class I</u>	<u>Class II</u>
9. Free jammed garbage disposal			
10. Test/adjust pressure reducing valves			
11. Test/replace thermocouple and/or pilot light			
12. Service backflow preventer			
13. Service sewage pumps			
14. Locate underground lines			
H. Safety-related Issues	15	11	15
1. Identify and control for the following potential safety hazards during installation and service:			
a. hot water heater and pressure vessels (vent system – slope, classification, sizing, routing and termination; testing, relief valves – sizing, pressure rating, routing and termination, etc.)			
b. gas piping: testing and support			
c. backflow prevention			
d. personal safety: poisonous gases, trenching, faulty equipment, etc.			
I. Calculate the following during installation and service: offset, volume, area, pressure, depth, circumference, radius, weight, etc.	5	5	5

	<u>JM</u>	<u>Number of Questions</u>	
		<u>Class I</u>	<u>Class II</u>
Administrative/Business/Design	<u>NA</u>	<u>40</u>	<u>40</u>
A. Comply with Business Laws	NA	15	15
1. Workers' compensation			
2. Unemployment insurance			
3. Employer's tax guide (circular E)			
4. State sales and use tax			
5. Business license			
6. Completion of I-9 form			
7. Lien rights			
B. Comply with Administrative Requirements	NA	15	15
1. Bonding and liquidated damages			
2. Insurance: liability, property damage, auto, etc.			
3. Financing and cash flow			
4. Bookkeeping and accounting			
5. Job cost estimating and bidding procedures			
6. Contracts and purchase orders			
7. Scheduling and project management			
8. Accident or incident reports			
C. Plumbing System Design	NA	10	10
1. Select sump reservoir			
2. Select water heaters (size and capacity)			
3. Select boilers (size and capacity)			
4. Select specialty fixtures: hospital, medical, restaurant, prison, etc.			
5. Select industrial piping and fixtures			
6. Select specialty piping: medical, gas, air, vacuum, etc.			
7. Select sewage ejection systems			
8. Select valves: backflow, T and P, pressure relief, check, vacuum relief, backwater, pressure-reducing, etc., according to manufacturer's specifications			
9. Select specialty traps and interceptors (grease, sand, oil, etc.)			
10. Select shower and safety pans			
11. Select fixtures according to ADA, ANSI regulations			
12. Select specialty waste systems (continuous, indirect, and safe waste systems, open site drains, trailer site waste systems, etc.)			
13. Select roof and storm drain systems			
Total Number of Test Questions	100	120	140
Additional Pre-test Questions Per Examination	<u>20</u>	<u>24</u>	<u>28</u>
Total Number of Test and Pre-test Questions	120	144	168

11. Time Limits

Journeyman – You will have a total of five (5) hours to complete the Journeyman examination. The examination will be administered in two parts. You will have two and one-half (2.5) hours to complete part 1, followed by a break. You will then have two and one-half (2.5) hours to complete part 2.

Master Class I – You will have a total of seven (7) hours to complete the Master Class I examination. The examination will be administered in two parts. You will have three and a half (3.5) hours to complete part 1, followed by a break. You will then have three and a half (3.5) hours to complete part 2.

Master Class II – You will have a total of seven (7) hours to complete the Master Class II examination. The examination will be administered in two parts. You will have three and a half (3.5) hours to complete part 1, followed by a break. You will then have three and a half (3.5) hours to complete part 2.

12. Pre-testing

The total number of questions on the examinations will include pre-testing of new test questions. The number of questions used to compute your score is shown on page 8 (total number of test questions). The pre-test questions will not be used to compute your score, but will allow for the collection of statistical information on the questions. Pre-test questions will be either rewritten or included on future examinations based on the statistical information collected.

13. Question Comments

There will be space provided on the back of the answer sheet (a sample is provided at the end of this bulletin) for you to comment on the examination's content or on any of the individual questions. When commenting on a question, please be as specific as possible and provide supporting arguments. If you believe that a question is unclear, explain why this is so. Your comments will be used in determining which questions on the examination will be reviewed prior to grading.

After the Examination

14. Statistical Review of Examination Performance

After administration of the plumber examinations, a statistical analysis of the examination and of each question is conducted. Based on the statistics and the candidates' comments, questions that might be flawed will be reviewed by the Division. After review of the questions on the examinations, the examinations are scored.

15. Difficulty Rating

The examination is developed in a manner to ensure consistency in evaluating the candidates' competency in the profession. Individual questions used on the examination are developed using a panel of licensed contractors. As each question is approved, it is assigned a difficulty rating by the panel. The difficulty rating of each question is used to determine the passing point of the examination form. In this manner, passing an examination form with more difficult questions will require a smaller number of correct answers, while passing an examination form with less difficult questions will require a larger number of correct answers. This process of determining the passing score is referred to as the modified Angoff method.

A new examination form is created for each examination administration. When a new examination is created, it is not possible to select questions with exactly the same difficulty level as all previous examinations. Accordingly, requiring candidates to answer correctly the same number of questions in order to pass different examination forms would be unfair.

Therefore, the number of answers required to pass any given examination form will vary from one form to another, based on the difficulty of the questions. If the questions selected for one examination form are more difficult, fewer questions are required to be answered correctly to pass that examination form. For example, a candidate may be required to answer 68% of the questions correctly to pass a more difficult examination form. To pass a less difficult examination form, correct answers for 72% of the questions may be required.

16. Final Scaled Scores

To record and report scores for examination forms with different passing points in a consistent manner, the minimum passing score for each examination form is converted to a final scaled score of 70. In this manner, the minimum passing score is 70 for all examination forms, regardless of the difficulty level of the individual examination form.

In the example above, candidates who correctly answer 68% of the questions on the more difficult examination would receive a final scaled score of 70. Candidates who answer more questions correctly would receive a final scaled score proportionately higher than 70. Candidates who answer fewer questions correctly would receive a final scaled score proportionately lower than 70.

The final scaled score of 70 is required for passing any examination form. By scaling the scores based on a common passing score of 70, a candidate's performance from one examination form to another is directly comparable, the relative performance of examination forms administered from one time period to another can be evaluated, and the processing of candidate scores is fairer because the difficulty level of the individual examination forms has been controlled.

17. Score Reports

Approximately six (6) weeks after the examination, score reports will be mailed. Examination scores cannot be released over the telephone, so please do not call the Board Office for this purpose. Passing candidates will receive their examination score, while failing candidates will receive their examination score and subscores in the major examination content areas. Subscores will be provided for the examination major content areas listed in this bulletin (see page 4).

18. Examination Regrade Process

Your scores are checked many times to ensure the accuracy of your test results. The optical scanner used in scoring your test is extremely accurate, and scores close to 70 are routinely handscored. Experience has shown that it is extremely unlikely that any scoring errors will occur.

However, you may request a handscoring of your answer sheet. In the unlikely event that your score changes, the new score from the handscoring will replace your previous score, whether the score increases or decreases. You must send your request in writing, within thirty (30) days of the postmark of your examination results notice to the address given below. Please indicate the date on which you took the examination and the title of the examination you wish to be handscored. You will receive notification of the handscoring results within thirty (30) days of receipt of the request. Results of the handscoring will be final. Requests for handscoring should be sent to:

Applied Measurement Professionals, Inc.
8310 Nieman Road
Lenexa, KS 66214-1579

19. Licenses

The Board Office will mail passing candidates their licenses within approximately six (6) weeks after the examination date. Any questions regarding licensing should be directed to the Board Office at 237 Coliseum Drive, Macon, GA 31217-3858, (478) 207-1416.

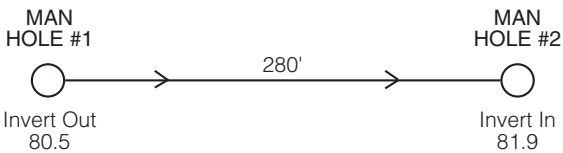
20. Re-examination Procedure

Candidates failing the examination must retake and pass the examination in order to become licensed. A new scheduling form will be sent with the score report to failing candidates. Board rule 121-2-.05 states that "Any applicant for licensure who takes and fails the examination twice after July 1, 1989, must present satisfactory evidence to the appropriate division of the Board that the applicant has completed a Board approved review course before such applicant will be admitted to a third examination. If such applicant fails the examination a third time, the applicant shall not be required to complete additional courses prior to taking subsequent examinations." Questions about examination scheduling may be directed to Applied Measurement Professionals, Inc., Candidate Services Department at 1-800-345-6559. A current scheduling form may be obtained from the Board Office or from the Board's website at www.sos.state.ga.us.

21. Sample Questions

The following questions are intended to help you become familiar with some of the types of questions you may encounter on the examinations. These sample questions do not represent the full range of content or difficulty levels contained in the actual examinations.

1. A dual check backflow preventer must be installed
 - A. with a union on the inlet only.
 - B. with a strainer installed just ahead of the inlet.
 - C. on a water service in the ground, within 2' downstream from the meter.
 - *D. with a union on the inlet and outlet and a shut off valve near the inlet.
2. Polybutylene pipe should **NOT** come in contact with which of the following?
 - A. tile grout
 - *B. petroleum based materials
 - C. teflon based pipe dope
 - D. fire stop caulk

- 3.

MAN HOLE #1 280' MAN HOLE #2

Invert Out 80.5 Invert In 81.9

What is the percentage of slope between manhole #1 and manhole #2?

- A. .4%
- *B. .5%
- C. 1.0%
- D. 1.4%

*** Correct Answer**

22. Sample Answer Sheet

A sample answer sheet is included at the end of this bulletin.



APPLIED MEASUREMENT
PROFESSIONALS, INC.

ANSWER SHEET

Directions for Marking the Answer Sheet

- Use a No. 2 lead pencil. Do **NOT** use ink or ball point pen.
- Make dark marks that completely fill the circle.
- Make **NO** stray marks on the answer sheet.

A NAME (Please print clearly.)

Last Name

First Name

Middle Initial

B FIRST 4 LETTERS OF LAST NAME

C APPLICANT ID NUMBER

D BIRTHDAY

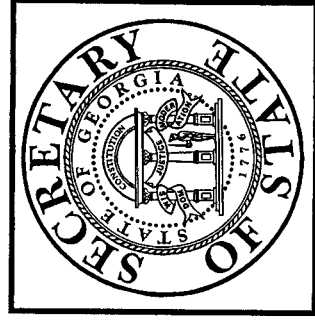
E HAVE YOU EVER TAKEN THIS EXAM BEFORE?

Jan.	<input type="radio"/>
Feb.	<input type="radio"/>
Mar.	<input type="radio"/>
Apr.	<input type="radio"/>
May	<input type="radio"/>
June	<input type="radio"/>
July	<input type="radio"/>
Aug.	<input type="radio"/>
Sept.	<input type="radio"/>
Oct.	<input type="radio"/>
Nov.	<input type="radio"/>
Dec.	<input type="radio"/>

Yes No

F TEST FORM NUMBER

G TEST CENTER NUMBER



TEST BOOKLET
NUMBER

1	(A)	(B)	(C)	(D)	41	(A)	(B)	(C)	(D)	81	(A)	(B)	(C)	(D)	121	(A)	(B)	(C)	(D)	161	(A)	(B)	(C)	(D)
2	(A)	(B)	(C)	(D)	42	(A)	(B)	(C)	(D)	82	(A)	(B)	(C)	(D)	122	(A)	(B)	(C)	(D)	162	(A)	(B)	(C)	(D)
3	(A)	(B)	(C)	(D)	43	(A)	(B)	(C)	(D)	83	(A)	(B)	(C)	(D)	123	(A)	(B)	(C)	(D)	163	(A)	(B)	(C)	(D)
4	(A)	(B)	(C)	(D)	44	(A)	(B)	(C)	(D)	84	(A)	(B)	(C)	(D)	124	(A)	(B)	(C)	(D)	164	(A)	(B)	(C)	(D)
5	(A)	(B)	(C)	(D)	45	(A)	(B)	(C)	(D)	85	(A)	(B)	(C)	(D)	125	(A)	(B)	(C)	(D)	165	(A)	(B)	(C)	(D)
6	(A)	(B)	(C)	(D)	46	(A)	(B)	(C)	(D)	86	(A)	(B)	(C)	(D)	126	(A)	(B)	(C)	(D)	166	(A)	(B)	(C)	(D)
7	(A)	(B)	(C)	(D)	47	(A)	(B)	(C)	(D)	87	(A)	(B)	(C)	(D)	127	(A)	(B)	(C)	(D)	167	(A)	(B)	(C)	(D)
8	(A)	(B)	(C)	(D)	48	(A)	(B)	(C)	(D)	88	(A)	(B)	(C)	(D)	128	(A)	(B)	(C)	(D)	168	(A)	(B)	(C)	(D)
9	(A)	(B)	(C)	(D)	49	(A)	(B)	(C)	(D)	89	(A)	(B)	(C)	(D)	129	(A)	(B)	(C)	(D)	169	(A)	(B)	(C)	(D)
10	(A)	(B)	(C)	(D)	50	(A)	(B)	(C)	(D)	90	(A)	(B)	(C)	(D)	130	(A)	(B)	(C)	(D)	170	(A)	(B)	(C)	(D)
11	(A)	(B)	(C)	(D)	51	(A)	(B)	(C)	(D)	91	(A)	(B)	(C)	(D)	131	(A)	(B)	(C)	(D)	171	(A)	(B)	(C)	(D)
12	(A)	(B)	(C)	(D)	52	(A)	(B)	(C)	(D)	92	(A)	(B)	(C)	(D)	132	(A)	(B)	(C)	(D)	172	(A)	(B)	(C)	(D)
13	(A)	(B)	(C)	(D)	53	(A)	(B)	(C)	(D)	93	(A)	(B)	(C)	(D)	133	(A)	(B)	(C)	(D)	173	(A)	(B)	(C)	(D)
14	(A)	(B)	(C)	(D)	54	(A)	(B)	(C)	(D)	94	(A)	(B)	(C)	(D)	134	(A)	(B)	(C)	(D)	174	(A)	(B)	(C)	(D)
15	(A)	(B)	(C)	(D)	55	(A)	(B)	(C)	(D)	95	(A)	(B)	(C)	(D)	135	(A)	(B)	(C)	(D)	175	(A)	(B)	(C)	(D)
16	(A)	(B)	(C)	(D)	56	(A)	(B)	(C)	(D)	96	(A)	(B)	(C)	(D)	136	(A)	(B)	(C)	(D)	176	(A)	(B)	(C)	(D)
17	(A)	(B)	(C)	(D)	57	(A)	(B)	(C)	(D)	97	(A)	(B)	(C)	(D)	137	(A)	(B)	(C)	(D)	177	(A)	(B)	(C)	(D)
18	(A)	(B)	(C)	(D)	58	(A)	(B)	(C)	(D)	98	(A)	(B)	(C)	(D)	138	(A)	(B)	(C)	(D)	178	(A)	(B)	(C)	(D)
19	(A)	(B)	(C)	(D)	59	(A)	(B)	(C)	(D)	99	(A)	(B)	(C)	(D)	139	(A)	(B)	(C)	(D)	179	(A)	(B)	(C)	(D)
20	(A)	(B)	(C)	(D)	60	(A)	(B)	(C)	(D)	100	(A)	(B)	(C)	(D)	140	(A)	(B)	(C)	(D)	180	(A)	(B)	(C)	(D)
21	(A)	(B)	(C)	(D)	61	(A)	(B)	(C)	(D)	101	(A)	(B)	(C)	(D)	141	(A)	(B)	(C)	(D)	181	(A)	(B)	(C)	(D)
22	(A)	(B)	(C)	(D)	62	(A)	(B)	(C)	(D)	102	(A)	(B)	(C)	(D)	142	(A)	(B)	(C)	(D)	182	(A)	(B)	(C)	(D)
23	(A)	(B)	(C)	(D)	63	(A)	(B)	(C)	(D)	103	(A)	(B)	(C)	(D)	143	(A)	(B)	(C)	(D)	183	(A)	(B)	(C)	(D)
24	(A)	(B)	(C)	(D)	64	(A)	(B)	(C)	(D)	104	(A)	(B)	(C)	(D)	144	(A)	(B)	(C)	(D)	184	(A)	(B)	(C)	(D)
25	(A)	(B)	(C)	(D)	65	(A)	(B)	(C)	(D)	105	(A)	(B)	(C)	(D)	145	(A)	(B)	(C)	(D)	185	(A)	(B)	(C)	(D)
26	(A)	(B)	(C)	(D)	66	(A)	(B)	(C)	(D)	106	(A)	(B)	(C)	(D)	146	(A)	(B)	(C)	(D)	186	(A)	(B)	(C)	(D)
27	(A)	(B)	(C)	(D)	67	(A)	(B)	(C)	(D)	107	(A)	(B)	(C)	(D)	147	(A)	(B)	(C)	(D)	187	(A)	(B)	(C)	(D)
28	(A)	(B)	(C)	(D)	68	(A)	(B)	(C)	(D)	108	(A)	(B)	(C)	(D)	148	(A)	(B)	(C)	(D)	188	(A)	(B)	(C)	(D)
29	(A)	(B)	(C)	(D)	69	(A)	(B)	(C)	(D)	109	(A)	(B)	(C)	(D)	149	(A)	(B)	(C)	(D)	189	(A)	(B)	(C)	(D)
30	(A)	(B)	(C)	(D)	70	(A)	(B)	(C)	(D)	110	(A)	(B)	(C)	(D)	150	(A)	(B)	(C)	(D)	190	(A)	(B)	(C)	(D)
31	(A)	(B)	(C)	(D)	71	(A)	(B)	(C)	(D)	111	(A)	(B)	(C)	(D)	151	(A)	(B)	(C)	(D)	191	(A)	(B)	(C)	(D)
32	(A)	(B)	(C)	(D)	72	(A)	(B)	(C)	(D)	112	(A)	(B)	(C)	(D)	152	(A)	(B)	(C)	(D)	192	(A)	(B)	(C)	(D)
33	(A)	(B)	(C)	(D)	73	(A)	(B)	(C)	(D)	113	(A)	(B)	(C)	(D)	153	(A)	(B)	(C)	(D)	193	(A)	(B)	(C)	(D)
34	(A)	(B)	(C)	(D)	74	(A)	(B)	(C)	(D)	114	(A)	(B)	(C)	(D)	154	(A)	(B)	(C)	(D)	194	(A)	(B)	(C)	(D)
35	(A)	(B)	(C)	(D)	75	(A)	(B)	(C)	(D)	115	(A)	(B)	(C)	(D)	155	(A)	(B)	(C)	(D)	195	(A)	(B)	(C)	(D)
36	(A)	(B)	(C)	(D)	76	(A)	(B)	(C)	(D)	116	(A)	(B)	(C)	(D)	156	(A)	(B)	(C)	(D)	196	(A)	(B)	(C)	(D)
37	(A)	(B)	(C)	(D)	77	(A)	(B)	(C)	(D)	117	(A)	(B)	(C)	(D)	157	(A)	(B)	(C)	(D)	197	(A)	(B)	(C)	(D)
38	(A)	(B)	(C)	(D)	78	(A)	(B)	(C)	(D)	118	(A)	(B)	(C)	(D)	158	(A)	(B)	(C)	(D)	198	(A)	(B)	(C)	(D)
39	(A)	(B)	(C)	(D)	79	(A)	(B)	(C)	(D)	119	(A)	(B)	(C)	(D)	159	(A)	(B)	(C)	(D)	199	(A)	(B)	(C)	(D)
40	(A)	(B)	(C)	(D)	80	(A)	(B)	(C)	(D)	120	(A)	(B)	(C)	(D)	160	(A)	(B)	(C)	(D)	200	(A)	(B)	(C)	(D)

1	43	85	127	152	177
2	44	86	128	153	178
3	45	87	129	154	179
4	46	88	130	155	180
5	47	89	131	156	181
6	48	90	132	157	182
7	49	91	133	158	183
8	50	92	134	159	184
9	51	93	135	160	185
10	52	94	136	161	186
11	53	95	137	162	187
12	54	96	138	163	188
13	55	97	139	164	189
14	56	98	140	165	190
15	57	99	141	166	191
16	58	100	142	167	192
17	59	101	143	168	193
18	60	102	144	169	194
19	61	103	145	170	195
20	62	104	146	171	196
21	63	105	147	172	197
22	64	106	148	173	198
23	65	107	149	174	199
24	66	108	150	175	200
25	67	109	151	176	

A B C D E F G H I J K L M N

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